

35. *PRIMULA GLABRA* KLATT—A NEW RECORD FOR ASSAM

(With a text-figure)

During the study and critical scrutiny of the materials of *Primula* L. of the Eastern Himalaya with special reference to Assam Himalaya, we came across some specimens of an interesting taxon which have been identified as *Primula glabra* Klatt, and confirmed by comparison with the type material deposited in Herb. (CAL). A perusal through earlier and recent literature (Hooker, 1882; Pax 1889; Pax and Kunth 1905; Smith and Fletcher 1944) reveals that the species is distributed over Sikkim, Bhutan, Nepal and adjoining parts of Tibet. The present finding appears to be a new record for Assam. As the Flora of Assam (Kanjilal *et al.* 1930)¹ lacks information, it has been felt necessary to give an illustrated account of the taxon.

Primula glabra Klatt in *Linnaea*. 37: 500. 1872; Watt in *Jour. Linn. Soc. Bot.* 20: 7. t. 4B. 1882; Hook. f. in *Fl. Brit. Ind.* 3: 487. 1882; Pax in *Engl. Bot. Jahrb.* 10: 193. 1889; Pax & Kunth in *Engl. Pflanzg. Primulaceae* 42: 92. 1905; Watt in *Journ. Roy Hort. Soc.* 29: 298, 302, 306, 1904; Craib, *ibid.* 39: 187. 1913; Watt, *ibid.* 39: 199, 204, 206, fig. 93, 1913; W.W. Sm. and Forrest, *ibid.* 54: 14, 31, 33. 1929 and in *Notes Roy Bot. Gard. Edin.* 16: 24. 1928; W. W. Sm. and Fletcher in *Tran. Roy. Soc. Edin.* 61: Pt. 1 (1): 47-48. 1944.

Primula glabra Klatt
(Fig. 1)

A small plant of 7-12 cm long and with stout rhizome, leaves compact, rosette, 1-3

cm. × 4-10 mm., spatulate to oblong spatulate, rounded or obtuse apex, serrate to denticulate, glabrous, efarinose, base narrowed into a broad or slender petiole; scape 2-11 cm long, efarinose, apex carrying an umbel of usually 7-10 flowers; bracts 1-2 mm. long, glabrous; Pedices usually 2-3 mm. long, glabrous; Calyx 3-4 mm. long, campanulate, minutely glandular pubescent, 1/3 to 1/2 free, lobes oblong, rounded apex; corolla pinkish, tube slightly exceeds to calyx tube; limb 5-6 mm. diam., annulate, lobe obovate, deeply emarginate; stamens reaching almost the annulus, anthers 1 mm. long, oblong; style 2.5 mm-3.5 mm. long, stigma capitate; capsule

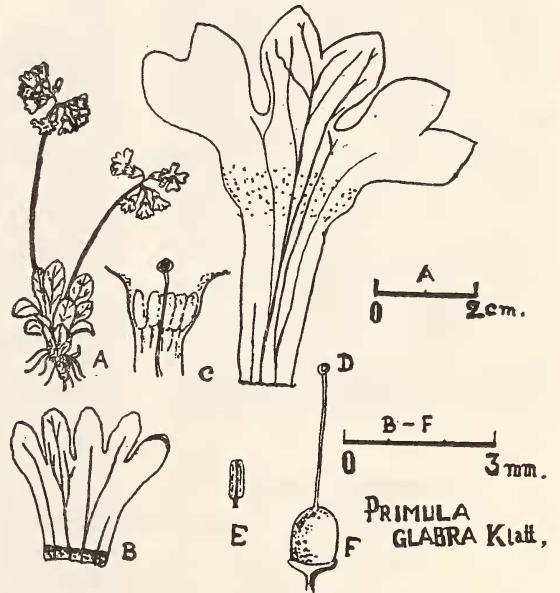


Fig. 1. *Primula glabra* Klatt: A. Habit of the plant; B. Calyx split open; C. An open flower in part showing stamens and a pistil; D. Corolla split open showing lobes of petals; E. Stamen; F. A carpel.

¹ KANJILAL, U. C. *et al.* (1930): Flora of Assam. Vol. III. Prabasi Press, Calcutta.

nearly as calyx oblong, included, seeds rounded to oval-angular.

Distribution: Nepal, Sikkim, Bhutan, Tibet.

Materials examined: SIKKIM. Reg. Alp. alt. 13-1400 ft *Hooker* 10 (ISOTYPE-CAL); Kapoor, alt. 13,000 ft. Dt. 12-7-1910. *W. W. Sm* 3405; Pey keiong La, June 1887. Dr. King's Col-

lector. s.n. Acc. No. 272329 (CAL); Jongri, alt. 12-14,000 ft. dt. 1881. *G. Watt* 5414; NEFA. Kameng Dist. alt. 10,000. dt. 28-5-57. *R. S. Rao* 7894 (B.S.I. Shillong); Se La alt. 4300 dt. 1st. September, 1964, *J. Joseph* 40201 (B.S.I. Shillong).

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May 20, 1978.

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36. FURTHER NOTES ON THE IDENTIFICATION OF THE GENUS *TEPHROSIA* PERS.

(With seven text-figures)

In an earlier volume of the *journal*, Mukherjee and Gupta (1970) have described an easy way of distinguishing species of *Tephrosia* from those of other genera, like *Indigofera* in the field, when not in flowering stage. By pulling apart the leaflets, after holding them at their bases and tips, the leaflets of *Tephrosia* species always show a V-shaped cut (Fig. 6A), while *Indigofera* leaflets when similarly pulled show a more or less straight cut (Fig. 7A). With a view to find the reasons for such a differentiating feature, we studied the leaves of several species of *Tephrosia* and *Indigofera*.

The leaflets of both species were decolourized by keeping in a weak solution of KOH for some days and later stained with alcoholic saffranin, dehydrated and mounted in D.P.X. All the slides thus prepared, showed the type of venation characteristic of leaflets of both the genera.

Tephrosia leaflets have a strong mid-rib and from it secondary branches, almost in pairs,

are given out to the wings of the lamina at an acute angle (Figs. 1 to 5). In some cases, when they near the margin they show a fork. One of the arms of the fork when it reaches near the margin curves towards the apex, is thicker than the other which becomes slender and later disappears in the thin mesophyll parenchyma (Figs. 2, 3 & 4). The successive pairs of these secondary veins enclose very little strips of thin walled tissue. When these leaflets were pulled apart as said in the beginning, the thin walled tissues in between the lateral veins give way, leaving these veins as they are. This results in the formation of a V-shaped cut (Fig. 6A). On the other hand, the leaflets of *Indigofera* have a uniform pattern of secondary veins, in that the secondary veins depart from the mid-rib more or less at right angles while entering the wings of the lamina. Moreover, these are comparatively thinner. This thinner pattern of venation might be the cause of the straight cut seen when the